Fig. 5(a) is a Wide Angle X-Ray Scattering (WAXS) spectrum for a polyaniline base film processed from NMP. The polymer film is essentially amorphous. Fig. 5(b) is a Wide Angle X-Ray Scattering spectrum for a polyaniline base film that has been stretch oriented ($l/l_o = 3.7$). This film was derived from a gel. Fig. 5(c) is a Wide Angle X-Ray Scattering spectrum for a polyaniline base film containing 10% of a poly-co-dimethyl propylamine siloxane. This film is highly crystalline.

Fig. 6 is a schematic diagram of a polycrystalline material as taught in the present invention having crystalline regions (outlined in dotted rectangles) with intersticial amorphous regions.

Fig. 7 is a Dynamic Mechanical Thermal Analysis (DMTA) plot for polyaniline base film cast from NMP. (First Thermal Scan; under Nitrogen)

Fig. 8 is a DMTA plot which represents the second thermal scan for a polyaniline base film cast from NMP; This same film was previously scanned as shown in Fig. 7. Film contains no residual solvent.

Fig. 9 is a DMTA plot for a polyaniline base film cast from NMP and containing 5% poly-co-dimethyl aminopropyl siloxane (5% N content). First thermal scan.

Fig. 10 is a DMTA plot for a polyaniline base film cast from NMP and containing 5% poly-co-dimethyl aminopropyl siloxane (5% N content). Second Thermal Scan (this same film was previously scanned as shown in Fig. 9) Film contains no residual solvent.

Fig. 11 is a GPC for a polyaniline base solution in NMP containing 5% poly-co-dimethyl aminopropyl siloxane by weight to polyaniline. The polyaniline was 0.1% in NMP.